

## Ecotox Report for Case # P-18-0307

### General

<b>Status</b> 03/15/2019 <b>Date:</b> <b>SAT Date:</b> 09/21/2018	<b>Report Status:</b> Complete <b>CRSS Date:</b> 09/20/2018  <b>SAT</b> Rebecca <b>Chair:</b> Daiss  <b>Consolidated Set:</b>
<b>Consolidated</b> N <b>PMN:</b> <b>Ecotox</b> <b>Related Cases:</b> <b>Health Related</b> <b>Cases:</b> <b>Submitter:</b> <b>CAS</b> <b>Number:</b> <b>Chemical</b> <b>Name:</b>	
<b>Use:</b>	This is a Sustainable Futures case.
<b>Trade Name:</b> <b>PV-max(kg/yr):</b>	<b>Ecotox</b> Wright, <b>Assessor:</b> Tracy

### Fate Summary Statement

<b>Fate P-18-0307</b> <b>Summary FATE:</b> <b>Statement:</b> MW = [redacted] with [redacted] < 500 and [redacted] < 1000 [redacted] with Pour Point = [redacted] °C (M) S = Negl. VP < 1.0E-6 torr at 25 °C (E) BP > 400 °C (E) H < 1.00E-8 (E) POTW removal (%) = 90 via sorption; [redacted] Time for complete ultimate aerobic biodeg > mo
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Sorption to soils/sediments =  
v.strong  
PBT Potential: P3B1  
FATE: Migration to ground water =  
negl

## Physical Chemical Information

<b>Molecular Weight:</b>	██████████	
<b>Wt% &lt; 500:</b>	██████████	<b>Wt% &lt; 1000:</b> ██████████
<b>Physical State - Neat:</b>	██████████	
<b>Melting Point:</b>	██████████	<b>Melting Point (est):</b>
<b>MP (EPI):</b>		
<b>Vapor Pressure:</b>		<b>Vapor Pressure (est):</b> <0.000001
<b>VP (EPI):</b>		
<b>Water Solubility:</b>		<b>Water Solubility (est):</b> <0.000001
<b>Water Solubility (EPI):</b>		
<b>Henry's Law::</b>		
<b>Log Koc:</b>		<b>Log Koc (EPI):</b>
		<b>Log Kow (EPI):</b>
<b>Log Kow:</b>		
<b>Log Kow Comment:</b>		

## SAT Concern Level

<b>Ecotox Rating (1):</b>	1
<b>Ecotox Rating Comment (1):</b>	
<b>Ecotox Rating (2):</b>	
<b>Ecotox Rating Comment (2):</b>	
<b>Ecotox Route of Exposure:</b>	No releases to water

## Ecotox Comments

<b>Exposure N</b> <b>Based Review</b> <b>(Eco):</b> <b>Ecotox</b> <b>Comments:</b> <b>Exposure Based</b> <b>Testing:</b>
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## PBT Ratings

Persistence	Bioaccumulation	Toxicity	Comments
3	1		

## Eco-Toxicity Comment:

## Fate Ratings

Removal <sup>90</sup> in WWT/POTW (Overall): Condition	Rating Values	1	2	3	4	Comment
<b>Fish BCF:</b>						
<b>Log Fish BCF:</b>						
<b>WWT/POTW Sorption:</b>	3	Low	Moderate	Strong	V. Strong	
<b>WWT/POTW Stripping:</b>	4	Extensive	Moderate	Low	Negligible	
<b>Biodegradation Removal:</b>	4	Unknown	High	Moderate	Negligible	
<b>Biodegradation Destruction:</b>		Unknown	Complete	Partial	—	
<b>Aerobic Biodeg Ult:</b>	4	<= Days	Weeks	Months	> Months	
<b>Aerobic Biodeg Prim:</b>		<= Days	Weeks	Months	> Months	
<b>Anaerobic Biodeg Ult:</b>	4	<= Days	Weeks	Months	> Months	
<b>Anaerobic Biodeg Prim:</b>		<= Days	Weeks	Months	> Months	
			Hours	Days	>= Months	

Removal <sup>90</sup> in WWT/POTW (Overall):					
Condition	Rating Values	1	2	3	4
Rating Description					
Comment					
Hydrolysis (t1/2 at pH 7,25C) A:		<=			
		Minutes			
Hydrolysis (t1/2 at pH 7,25C) B:		<=	Hours	Days	>= Months
		Minutes			
Sorption to Soils/Sediments:	1	V.	Strong	Moderate	Low
		Strong			
Migration to Ground Water:	1	Negligible	Slow	Moderate	Rapid
Photolysis A, Direct:		Negligible	Slow	Moderate	Rapid
Photolysis B, Indirect:		Negligible	Slow	Moderate	Rapid
Atmospheric Ox A, OH:		Negligible	Slow	Moderate	Rapid
Atmospheric Ox B, O3:		Negligible	Slow	Moderate	Rapid
Bio Comments: A					
		fate study summary is available.			
Fate Comments:					

### Ecotoxicity Values

Test organism	Test Type	Test Endpoint	Predicted	Experimental	Comments
Fish	96-h	LC50	*		* = no effects at saturation.
Daphnid	48-h	LC50	*		"
Green Algae	96-h	EC50	*		"
Fish	-	Chronic Value	*		"
Daphnid	-	Chronic Value	*		"
Green Algae	-	Chronic Value	*		"
Ecotox Value Predictions are based on SARs for polycationic					
Comments: polymers; MW [REDACTED] with [REDACTED] % <500 and [REDACTED] % <1000; %A-N = [REDACTED] %; [REDACTED]					
with a MP = [REDACTED] C (M); S = negligible (P); effective concentrations based on					

Test organism	Test Type	Test Endpoint	Predicted	Experimental	Comments
			100% active ingredients and mean measured concentrations; hardness <150 mg/L as CaCO <sub>3</sub> ; and TOC <2.0 mg/L.		

### Ecotox Factors

Factors	Most Sensitive Endpoint	Assessment Factor	CoC	Comment
<b>Acute Aquatic (ppb):</b>				Ecotoxicity values indicate that effects are not expected up to the limit of solubility of the chemical substance. As a result, CoCs were not calculated for this chemical.
<b>Chronic Aquatic(ppb):</b>				Ecotoxicity values indicate that effects are not expected up to the limit of solubility of the chemical substance. As a result, CoCs were not calculated for this chemical.
Factors	Values	Comments		
<b>SARs:</b> Polycationic Polymers <b>SAR</b> Polymers-cationic- <b>Class:</b> insoluble- A-N				
<b>TSCA NCC Category?</b>	Polycationic Polymers			

### Recommended Testing:

#### Ecotox Factors Environmental

**Comments:** Hazard: Environmental hazard is relevant to whether a new chemical substance is likely to present unreasonable risk because the significance of the risk is dependent upon both the hazard (or toxicity) of the chemical substance and the extent of exposure to the substance. EPA estimated environmental hazard of this new chemical based on the insolubility of the substance and SARs for polycationic polymers. Substance falls within the TSCA New Chemicals Category Polycationic

polymers. Acute toxicity values estimated for fish, aquatic invertebrates, and algae are all no effects at saturation (up to the water solubility limit). Chronic toxicity values estimated for fish, aquatic invertebrates, and algae are all no effects at saturation. These toxicity values indicate that the new chemical substance is expected to have low environmental hazard. Because hazards are not expected up to the water solubility limit, acute and chronic concentrations of concern are not identified. EPA reviewed the Sustainable Futures summary for environmental hazard provided by the submitter, which had moderate toxicity. The values are based on predictions without consideration of the insolubility of the test substance and with application of mitigation factors. Based on uncertainties regarding levels of dissolved organic carbon in freshwater systems, EPA predictions without mitigation were used. If a polymer under the same CAS RN is produced differently [i.e, changes in the proportion of repeating units, the average molecular weight, percentage of low molecular weight (LMW) components, and/or proportion of surface acting monomers], hazard concerns may result based on changes in water solubility. For the potential future chemical substance, concerns may result from the [REDACTED].

Environmental Risk: Risks to the environment were evaluated by comparing estimated surface water concentrations with the acute and chronic concentrations of concern. Risks to the environment from acute and chronic exposure are not expected at any concentration of the new chemical substance soluble in the water (i.e., no effects at saturation).

## Comments/Telephone Log

Artifact	Update/Upload Time
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